IDH2-mutant inhibitors are a class of drugs designed to specifically target and inhibit the activity of mutant isocitrate dehydrogenase 2 (IDH2) enzymes. These inhibitors are being developed for the treatment of certain cancers that harbor IDH2 mutations, including acute myeloid leukemia (AML) and other hematological malignancies.

Similar to IDH1-mutant inhibitors, the primary goal of IDH2-mutant inhibitors is to block the abnormal function of mutant IDH2 enzymes and reduce the production of the oncometabolite 2-hydroxyglutarate (2-HG). By inhibiting mutant IDH2 and reducing 2-HG levels, these inhibitors aim to restore normal cellular processes and potentially impede tumor growth.

Some of the IDH2-mutant inhibitors that have been developed and are currently under investigation in clinical trials include:

Enasidenib (Idhifa): Enasidenib is an oral medication approved by the U.S. Food and Drug Administration (FDA) for the treatment of relapsed or refractory IDH2-mutant AML. It selectively targets mutant IDH2 and has shown efficacy in clinical trials.

AG-221: AG-221, also known as ivosidenib, is an IDH2-mutant inhibitor that is being investigated in clinical trials for the treatment of IDH2-mutant AML and other hematologic malignancies.

Clinical trials play a crucial role in evaluating the safety, efficacy, and tolerability of IDH2-mutant inhibitors in specific patient populations. The use of these inhibitors may depend on factors such as the type and stage of cancer, mutation status, and individual patient characteristics.

It's important to note that while IDH2-mutant inhibitors show promise, they are still under investigation, and their full therapeutic potential is being explored. Therefore, the use of these inhibitors in clinical practice is currently limited to certain indications and under the supervision of healthcare professionals involved in clinical trials or approved treatments.